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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/808,808	03/24/2004	Robert David Solomon	A01507	7597
21898	7590	02/18/2005	EXAMINER	
ROHM AND HAAS COMPANY PATENT DEPARTMENT 100 INDEPENDENCE MALL WEST PHILADELPHIA, PA 19106-2399			ASINOVSKY, OLGA	
			ART UNIT	PAPER NUMBER
			1711	

DATE MAILED: 02/18/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/808,808	Applicant(s) SOLOMON ET AL.	
	Examiner Olga Asinovsky	Art Unit 1711	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>6/23 & 9/30/2004</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lau et al U.S. patent 6,670,419.

Lau discloses a comb copolymer comprising a backbone polymer and a graft segment, column 4, lines 42-67, column 5, lines 12-40. The backbone polymer is derived from polymerizable ethylenically unsaturated monomers, column 3, lines 37-45. Each side chain =graft segment is formed by a macromonomer that is grafted to the polymer backbone, column 5, lines 12-16. A graft segment is produced by aqueous emulsion polymerization, column 4, lines 42-44. Lau'419 discloses a method of making the graft copolymer, column 8, lines 32-50. The composition of macromonomers is produced by polymerization of ethylenically unsaturated monomer(s) wherein the first ethylenically unsaturated monomer can have a functional group such as aldehyde, column 9, lines 12-41. The macromonomer for graft segment can be selected that the T_g of the graft segment of the comb copolymer will be from 50 C, column 9, lines 7-11. The backbone polymer of the comb copolymer can have a T_g of -80 to 0 C, column 15, lines 15-17. The ethylenically unsaturated monomers can be selected from long list of ethylenically

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unsaturated monomers in Lau'419 such that specified Tg for macromonomer=polymer backbone and graft segment would be similar to the requirement in the present claims. It would have been obvious to one of ordinary skill in the art to select a macromonomer and graft segment in Lau'419 in the amount specified in the present claims, and, thereby obtain the claimed requirement.

3. Claims 8-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lau et al U.S. patent 6,670,419 as applied to claim 1-7 above, and further in view of Huybrechts et al U.s. patent 5,936,026.

4. Lau'419 does not disclose an aqueous coating composition using comb copolymer; instead of Lau'419 discloses using a comb copolymer for forming a solid blend with a thermoplastic polymer.

5. Huybrechts discloses an aqueous coating composition comprising a graft copolymer, column 3, lines 23-67 and column 7, lines 39-41. The comb structure is inherent in this reference in view of plurality of "macromonomer arms attached to the backbone polymer", column 25, lines 39-41. Huybrechts discloses varieties of the selected monomers for backbone polymers and monomers for producing macromonomers, column 6, lines 3-67. The resulting graft copolymer can be formed in water dispersion for making a stable dispersion, column 16, lines 26 and 55.

6. In view of the similarity between the comb copolymer in claims 1-7 in the present invention and the comb copolymer produced by aqueous emulsion polymerization in Lau'419 it would have been obvious to one of ordinary skill in the art to use a comb

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copolymer disclosed by Lau'419 for producing an aqueous coating composition as suggested by Huybrechts, because a comb copolymer containing water insoluble particles of graft copolymer (Lau'419, column 20, lines 23-25) can be used as additive for making any article.

7. Claims 1-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Antonelli et al U.S. patent 6,107,392.

Antonelli discloses an aqueous coating composition comprising a dispersed graft copolymer comprising macromonomers attached at a terminal end thereof to a polymeric backbone. The comb structure is inherent for a graft copolymer in Antonelli in view of that the resulting graft polymer having a plurality of macromonomer "arms" attached to the backbone polymer, column 6, lines 48-53. The backbone polymer and graft segment=macromonomer are formed from ethylenically unsaturated monomers. The backbone polymer can be formed from hydrophilic ethylenically unsaturated monomers. The graft segment=macromonomer can be formed from hydrophobic polymerized ethylenically unsaturated monomers, column 3, lines 15-25. The resulting acrylic graft copolymer forms a stable dispersion in water, column 4, lines 52-55. The graft copolymer can be used as a water-based coating composition, column 8, lines 35-64. The waterborne coating in Antonelli invention is readable in the present claims.

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Antonelli does not disclose a Tg for backbone polymer and a Tg for a grafted segment=macromonomer. Since reference discloses wide variety of ethylenically unsaturated monomers, it would have been obvious to one of ordinary skill in the art to select the ethylenically unsaturated monomers for forming a backbone polymer and a graft segment in Antonelli invention having claimed specified Tg to provide the desired properties in the resulting copolymer composition.

The examiner notes that a process in claim 7, lines 16-20 is difficult to understand. Is a Tg referring to at least one first ethylenically unsaturated monomer or other selected monomer?

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. References have been considered.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Olga Asinovsky whose telephone number is 571-272-1066. The examiner can normally be reached on 9:00 to 5:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Seidleck can be reached on 571-272-1078. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.


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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Olga Asinovsky
Examiner
Art Unit 1711

J.A.

February 14, 2005


James J. Seidleck
Supervisory Patent Examiner
Technology Center 1700